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Attorney's Docket No.:003498.P014 Patent

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Patent Application of:

Rajugopal R. Gubbi, et al.

Application No: 09/151,579

Filed: September 11, 1998

For: METHOD AND APPARATUS FOR ACCESSING A COMPUTER NETWORK COMMUNICATION CHANNEL

Examiner: Willett, S.

Art Unit: 2152

OIPE JC29 JAN 18 2002 PATENT & TRADEMARK OFFICE

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Commissioner for Patents
Washington, D.C. 20231

APPEAL BRIEF
IN SUPPORT OF APPELLANTS' APPEAL
TO THE BOARD OF PATENT APPEALS AND INTERFERENCES

Sir:

This Brief is submitted in triplicate in support of this appeal from a final decision of the Examiner, mailed August 31, 2001. Consideration of this appeal by the Board of Patent Appeals and Interferences for allowance of the above-captioned patent application is respectfully requested.

FIRST CLASS CERTIFICATE OF MAILING (37 C.F.R. § 1.8(a))

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I. REAL PARTY IN INTEREST

The real party in interest is Sharewave, Inc., a corporation of California having a place of business at 5175 Hillsdale Circle, El Dorado Hills, CA.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

III. STATUS OF CLAIMS

Claims 1-15 and 21-34 are currently pending, have been finally rejected and are the subject of this appeal.

IV. STATUS OF AMENDMENTS

There are no currently pending amendments.

V. SUMMARY

A. Summary of the Invention

The present invention relates generally to a scheme for communications within a computer network and, in particular, to such communications as occur between a first device which is not initially admitted to the computer network and the computer network. The present scheme is generally applicable to a variety of wireless network environments, but finds especially useful application in a computer network which is located in a home environment. See Specification at pp. 1-2.

In the present invention, a network including a network controller and at least two network components is provided. The two network components are called "current components"

of the network because each is currently part of the network. In addition, a network communication channel containing an arbitrary number of designated time slots, one of which is a quiet time slot, is provided. The quiet time slot is provided to allow one or more new devices to be added to the network as it operates. See Specification at pp. 17.

In the specification and claims, the new device is recited as being initially not admitted to the network. For example, the new device may not be initially admitted to the network because it is turned off, is out of communication range, is offline, etc. However, such devices are capable of being made part of the network. When the new device powers up, it listens to the network's internal communication channel to find a quiet time slot in which to transmit a connection request message to the network controller device previously mentioned. See Specification at pp. 18-19.

The connection request message is received by the network controller device, which confirms the message and retransmits it back to the new device until a response from the new device is received. The network controller may also authenticate the user ID of the new device. See Specification at pp. 35-38.

Following confirmation of the connection request message, negotiations occur between the network controller and the new device. These negotiations may include determining the bandwidth and time slots assigned to the new device. See Specification at pp. 19. Upon completion of negotiations, the new device is admitted to the network and is made a current component thereof. See Specification at pp. 20-21.

Claim 1 is presented below with elements read on Figures of the drawings as required in MPEP 1206.

1. A method of seeking admission to a computer network

having two or more current components, the method comprising:

listening at a first device (State 60) to a communication channel having one or more time slots designated therein, the communication channel communicatively coupling the two or more current components of the computer network, the first device not initially admitted to the computer network, but capable of joining the computer network upon acceptance of a connection request transmitted from the first device to a least one of the network's current components; and

transmitting a connection request (State 66) from the first device to a controller of the computer network within one of the designated time slots.

As stated in MPEP 1206, the claims are not to be limited to this embodiment by such reading.

B. Summary of Rejections

Claims 1, 7, 12 and 27 were rejected under 35 U.S.C. 103(a) as being unpatentable over Borgstahl et al., US Patent No. 5,909,183 ("Borgstahl") in view of Altvater et al., US Patent No. 5,889,771 ("Altvater") and Matsuno et al., US Patent No. 5,548,296.

Claims 1-15 and 21-34 were rejected under 35 U.S.C. 103(a) as being unpatentable over Mosebrook et al., US Patent No. 5,905,442 ("Mosebrook") in view of Barrett et al., US Patent No. 5,699,532 ("Barrett").

C. Summary of the References

Borgstahl teaches a system and method for programming an appliance using a controller.

In this system and method, peer nodes listen to a channel and periodically initiate unsolicited connection attempts with other peer nodes, whenever another peer node comes within a "particular proximity to each other." Thus, physical proximity is a key aspect of the Borgstahl invention. If a connection attempt is successful, e.g. a second peer has come within a particular proximity of the first peer, the peers negotiate back and forth to determine whether a connection between the peers will be established or not, according to the needs and capabilities of the peer nodes.

Altvater describes a frequency hopping network wherein a device searches for an open frequency in order to make a transmission. In other words, the communication scheme described by Altvater fills empty frequencies in an active frequency hopping network that might otherwise go unused.

Matsuno describes a scheme wherein one base station in a network that is surrounded by a collection of other base stations send a request to the other, surrounding base stations seeking available channels or time slots from those base stations. When each of the other base stations has reported its idle channels or time slots, the base station that originated the request chooses a common idle channel or time slot to the group and transmits a signal therein. In other words, in the Matsuno scheme no time slot is designated as idle.

Mosebrook describes a scheme in which various electrical devices, such as those used for controlling electric lights are communicatively coupled to a central controller through an RF communication link. In such a network, a manual "install mode" is used at the network controller in order to add devices to the network.

Barrett describes a multiple path channel interface for a computer input/output system and goes on to describe a negotiating process for determining "certain communication parameters at the time a transmission group is activated." See Barrett at col. 9, ll. 64 - col. 10, ll. 3.

VI. ISSUES

1. Whether claims 1, 7, 12, 16, 27, 30, and 32 are patentable over Borgstahl in view of Altvater and Matsuno?

2. Whether Claims 1-15 and 21-34 are patentable over Mosebrook in view of Barrett?

VII. GROUPING OF CLAIMS

For the purposes of this appeal, claims 1-15 and 21-34 stand or fall together.

VIII. ARGUMENT

A. Claims 1, 7, 12, and 27 are patentable over Borgstahl Even in View of Altvater and Matsuno

Borgstahl describes a scheme for peer-to-peer communications. See Borgstahl at col. 3, ll. 65 to col. 4, ll. 2. As admitted by the Examiner in the Final Office Action (see, e.g., page 3), this peer-to-peer communications scheme fails to teach the transmitting of a connection request from a first device to a controller of a computer network, as presently claimed. Despite this fundamental flaw in the reference, the Examiner nevertheless asserts that the peer-to-peer communications scheme of Borgstahl could somehow be modified using the teachings of Altvater and Matsunoto arrive at a system similar to that which is presently claimed. Such a suggestion, finds no support in the references themselves. For example, nowhere in the references is it suggested how the peer-to-peer communications scheme could be modified to accommodate connection requests.

Recently, the United States Court of Appeals for the Federal Circuit reminded those concerned with the prosecution of patent applications that where a rejection depends on a

combination of prior art references, "there must be some teaching, suggestion or motivation to combine the references." In re Rouffet, 149 F.3d 1350, 1355 (Fed. Cir. 1998). In particular, the examiner must show reasons that the skilled artisan, with no knowledge of the claimed invention, would select the elements from the cited references for combination in the manner claimed. Id. at 1357. It is wholly insufficient to rely on "the skill in the art" to supply the motivation needed to make the requisite combinations, as has been attempted in the present case. Id. at 1357-58. Thus, the present rejections fail to set forth a prima facie case of obviousness.

In the scheme described by Borgstahl, for example at cols 6 and 7, a device listens to a channel to see if a compatible protocol is in use. If no transmissions are detected, the device listens to see if a connection attempt is being sough. Only if no connection attempt by another peer is being sought does this device transmit a message. That is, only if the channel is silent does the device in question make a transmission. See, e.g., the flowchart set forth in Figure 6. Thus, Borgstahl does not teach a scheme where a device waits for a quiet time slot within a communication in an existing channel. Rather, Borgstahl teaches a scheme wherein the device transmits only if a channel is completely clear of communications.

The primary teachings of a prior art reference cannot be ignored in setting forth a rejection under S. 103. Application of Lunsford, 357 F.2d 385 (CCPA 1966). Nevertheless, it appears that in the present case, Borgstahl's explicit teachings regarding transmitting a message only if a channel is completely clear of communications have been ignored and that there has been an attempt to "pick and choose" only those portions of the reference which are believed to support the position maintained in the Office Action. By not considering Borgstahl's explicit teachings regarding transmitting a message only if a channel is completely clear of communications, the arguments set forth in the Office Action only serve to confirm that such a

piecemeal approach has been used in reaching the opinions set forth therein. Basing a rejection on such grounds is improper, Application of Kamm, 452 F.2d 1052 (CCPA 1972), and it is submitted that the present rejections cannot withstand scrutiny.

In addition to the above, the combination suggested in the Office Action is one that overlooks fundamental differences between the references in order to arrive at an expedient conclusion. For example, consider that Altvater, describes a frequency hopping network wherein a device searches for an open frequency in order to make a transmission. In other words, the communication scheme described by Altvater fills empty frequencies in an active frequency hopping network that might otherwise go unused. This is not the situation disclosed by Borgstahl as explained above. Rather than searching for an open frequency in order to make a transmission, in Borgstahl a device listens to a channel to see if a compatible protocol is in use, and only if the channel is silent does the device in question make a transmission.

Notwithstanding these fundamental differences in making transmissions, the Office Action asserts that it would have been obvious to combine the teachings Borgtstahl with the teachings of Altvater. Such a rejection appears to be a classic case of "decomposition", where only those elements from the various references that serve to help the Examiner's case are considered and the remainder of the references' teachings is ignored. However, "Decomposing an invention into its constituent elements, finding each element in the prior art, and then claiming that it is easy to reassemble these elements into the invention, is a forbidden ex-post analysis." In re Manhukar Patent Litigation, 831 F. Supp. 1354 (N.D. Ill. 1993). "unless the prior art itself suggests the particular combination, it does not show that the actual invention was obvious or anticipated." Id. at 1374. Here, the prior art does not suggest the combination of Borgstahl and Altvater. Furthermore, in contrast to the combination of Borgstahl and Altvater, the claims recite

a scheme wherein quiet time slots are designated so as to allow for transmissions by devices seeking to enter a network. Thus, Altvater clearly fails to cure the deficiencies noted with respect to Borgstahl and, therefore, the claims are patentable over the combination of Borgstahl and Altvater.

Even adding the teachings provided by Matsuno does not render the present invention obvious. Matsuno, describes a scheme wherein one base station in a network that is surrounded by a collection of other base stations send a request to the other, surrounding base stations seeking available channels or time slots from those base stations. When each of the other base stations has reported its idle channels or time slots, the base stations that originated the request chooses a common idle channel or time slot to the group and transmits a signal therein. In other words, in the Matsuno scheme no time slot is designated as idle. Rather, the idle time slot depends upon finding a common idle time slot or channel among a collection of base stations. There is no protocol which designates a particular timeslot as being idle and the determination of a "idle time slot" varies depending upon the time of which the original bay station transmits its request. Thus, even if this scheme were somehow incorporated in the system taught by Borgstahl, one would still not arrive at the claimed invention because there would be no designated idle or quiet timeslot in a channel. As explained above, any suggestion that the peer-to-peer communication scheme of Borgstahl could somehow be modified using the teachings of Altvater and Matsuno to arrive at a system similar to that which is presently claimed finds no support in the references themselves. It is only Applicant's own teachings that provide the necessary guidelines for one of ordinary skill in the art to make and use the system that is presently claimed. The application of hindsight to reconstruct Applicant's invention in the prior art is strictly prohibited and cannot form the basis for the current rejection.

B. Claims 1-15 and 21-34 are patentable over Mosebrook Even in View of Barrett

Mosebrook describes a scheme in which various electrical devices, such as those used for controlling electric lights are communicatively coupled to a central controller through an RF communication link. In such a network, a manual "install mode" is used at the network controller in order to add devices to the network. Therefore, no quiet time slot is even necessary in the Mosebrook scheme because installation of new devices to the network is done manually. In short, absolutely nothing in the Mosebrook reference teaches or suggests the use of a quiet time slot and, accordingly, the claims are patentable over Mosebrook.

Barrett fails to cure these deficiencies. Barrett describes a multiple path channel interface for a computer input/output system and goes on to describe a negotiating process for determining "certain communication parameters at the time a transmission group is activated." See Barrett at col. 9, ll. 64 - col. 10, LL. 3. Barrett fails to describe the use of a communication protocol that includes a quiet time slot. Indeed, even the bandwidth negotiations recited in the present claims are different than those described by Barrett because the claimed bandwidth negotiations initiate with a transmission in a quiet time slot and, as indicated above, Barrett fails to describe such a scheme. Accordingly, the claims are patentable over the combination of Mosebrook and Barrett.

Recently, the United States Court of Appeals for the Federal Circuit reminded those concerned with the prosecution of patent applications that where a rejection depends on a combination of prior art references, "there must be some teaching, suggestion or motivation to combine the references." In re Rouffet, 149 F.3d 1350, 1355 (Fed. Cir. 1998). In particular, the examiner must show reasons that the skilled artisan, with no knowledge of the claimed invention, would select the elements from the cited references for combination in the manner claimed. Id. at 1357. It is wholly insufficient to rely on "the skill in the art" to supply the motivation needed to make the requisite

combinations, as has been attempted in the present case. Id. at 1357-58. Thus, the present rejections fail to set forth a prima facie case of obviousness.

IX. CONCLUSION

For the foregoing reasons, Appellants respectfully request reversal of the Examiner's rejections as set forth in the Final Office Action and request that the Board direct allowance of all of the claims. If there are any additional charges, please charge Deposit Account No. 02-2666.

Respectfully submitted,

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Date: 10/22, 2001

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APPENDIX A
(37 C.F.R. § 1.192 (c)(9))

The claims on appeal read as follows:

1. A method of seeking admission to a computer network having two or more current components, the method comprising:

listening at a first device to a communication channel having one or more time slots designated therein, the communication channel communicatively coupling the two or more current components of the computer network, the first device not initially admitted to the computer network, but capable of joining the computer network upon acceptance of a connection request transmitted from the first device to at least one of the network's current components; and

transmitting a connection request from the first device to a controller of the computer network within one of the designated time slots.

2. The method of Claim 1, further comprising:

confirming the connection request by transmitting the connection request from the controller to the first device periodically until a response from the first device is received by the controller.

3. The method of Claim 2 further comprising:

sending from the controller to the first device, a connection agreements package, the package including information regarding time slots within the

communication channel to be used by the controller when transmitting information to the first network device.

4. The method of Claim 3 wherein the connection agreement packet further includes information regarding time slots within the communication channel to be used by the first device when transmitting information to the controller.

5. The method of Claim 4 wherein information sent between the first device and the controller comprises packets and the connection agreement packet further includes information the first network device can send or expect to receive in each packet for each type of data included in a packet.

6. The method of Claim 4 further comprising:

transmitting data from the first device to the controller in the time slots designated in the connection agreement packet.

7. A method of seeking admission to a computer network having two or more current components, the method comprising:

determining at a first device not initially admitted to the computer network, but capable of joining the computer network, whether a communication channel communicatively coupling the two or more current components of the computer

network is actively being utilized by the current components of the computer network;

determining at the first device the existence of one or more time slots designated within the communications channel; and

transmitting a message from the first device, within one or more of the time slots designated within the communication channel, at a time depending upon whether the communication channel is actively being utilized or not.

8. The method of Claim 7 wherein if the communication channel is not actively being utilized, the first device listens to the communication channel for a response to the message before changing to a new communication channel.

9. The method of Claim 8 further comprising:

listening for channel activity in the new communication channel.

10. The method of Claim 9 further comprising negotiating for access to the new communication channel if channel activity is detected, otherwise transmitting a connection request message in the new communication channel and awaiting a response thereto.

11. The method of claim 10 further comprising:

repeatedly changing channels and, in each channel, listening for channel activity and either negotiating for channel access or transmitting the connection request message, depending upon whether channel activity is detected, for all available channels until an active channel is found or all available channels have been searched.

12. A method of seeking admission to a computer network having two or more current components, at least one component being a network controller, the method comprising:

listening at the network controller for a connection request message transmitted by a first device not initially admitted to the computer network, but capable of joining the computer network, the connection request message seeking access for the first device to a communication channel communicatively coupling the network's two or more current components; and

negotiating bandwidth requirements within the communication channel with the first device upon receipt of the connection request message.

13. The method of claim 12 wherein negotiating comprises exchanging further connection request messages between the network controller and the first device to synchronize the first device to the network controller.

14. The method of claim 12 further comprising:

authenticating the first device by comparing a client identifier provided by the first device against a list of known clients prior to negotiating bandwidth requirements.

15. The method of claim 12 wherein negotiating bandwidth requirements comprises reallocating bandwidth within the communication channel among the one or more network components and the first device.

21. The method of claim 3 wherein the connection agreement packet comprises a connection agreement command field that identifies the packet, a forward bandwidth field to specify the number of packets that the first device can expect to receive from the controller, a reverse bandwidth field to specify the number of packets that the first device may send to the controller, a field that specifies a preceding on-line network device and a network on-line number.

22. The method of claim 1 wherein the connection request identifies a subclient of the first device.

23. The method of claim 22 wherein the connection request is first transmitted from the subclient to the first device across a wireless communication link before

being transmitted from the first device to the controller.

24. The method of claim 23 wherein the controller authenticates the subclient prior to allowing the subclient to access the computer network.

25. The method of claim 24 wherein the controller further determines whether sufficient bandwidth is available in the communication channel to accommodate the subclient prior to allowing the subclient to access the computer network.

26. The method of claim 25 wherein the controller communicates the result of its decision whether or not to allow the subclient to access the computer network to the subclient via the first device.

27. A method of providing access to a computer network, comprising:

organizing communications within a computer network communication channel into a number of time slots, each time slot being designated for transmissions from one of a number of network components; and

including a quiet time slot within the communication channel for use by a first device seeking access to the communication channel, the first device not initially admitted to the network, but capable of joining the computer network.

28. The method of claim 27 further comprising:

transmitting from the first device a request for access to the communication channel during the quiet time slot.

29. The method of claim 28 wherein the request for access is repeated a number of times during the period of the quiet time slot.

30. The method of claim 29 further comprising transmitting a response to the request for access from the first device if no other requests for access were received from other non-admitted devices at the same time as the request for access transmitted by the first device, otherwise not transmitting a response.

31. The method of claim 30 wherein if the first device does not receive a response to the request for access, the first device refrains from transmitting a further request for access to the communication channel for an arbitrary period of time.

32. The method of claim 31 further comprising transmitting the further request for access from the first new network component and granting access to the communication channel to the first new network component in response thereto.

33. The method of claim 28 further comprising recognizing at a second non-

admitted device the request for access transmitted by the first device.

34. The method of claim 33 wherein the second non-admitted device refrains from transmitting a new request for access to the communication channel in response to recognizing the request for access transmitted by the first device.